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WORKERS ARE PRODUCTIVE AGENTS. THEIR ECONOMIC PRODUCTIVITY IS ENHANCED BY INVESTMENT IN THEM. THE INVESTMENT APPROACH IS NOT ONLY A USEFUL BUT A VERY POWERFUL ORGANIZING CONCEPT FOR POLICY AND PROGRAMING. BY USING IT, ONE CAN IDENTIFY MAJOR MALINVESTMENTS THAT ARE A CONSEQUENCE OF PUBLIC POLICY SUCH AS--(1) IN AGRICULTURE, TOO MUCH HAS BEEN INVESTED IN LAND, RELATIVE TO WHAT HAS BEEN INVESTED IN FARM PEOPLE, IN TERMS OF THE SOCIAL RATE OF RETURN, (2) IN INDUSTRY, THE TAX INVESTMENT CREDITS ARE FOR EQUIPMENT AND STRUCTURES RATHER THAN FOR ECONOMICALLY USEFUL INDUSTRIAL SKILLS, AND (3) IN SCHOOLING AND OTHER INVESTMENTS IN PEOPLE, THE UNDERINVESTMENT IS PATENTLY MOST SERIOUS IN THE CASE OF THE POOR. THE COUNTRY NO LONGER SUPPORTS THE OLD UTILITY-OF-POVERTY DOCTRINE, WHICH HELD THAT POVERTY IS A USEFUL, NECESSARY, AND GOOD THING IN SOCIETY. HOWEVER, PROVISION FOR TODAY'S STRONG DEMAND FOR MORE PRODUCTIVE CAPACITY IS LIMITED BY OBSOLETE MANPOWER THINKING. IT IS ALSO LIMITED BY EDUCATIONAL MALINVESTMENT WHICH RESULTS IN LOW EARNING CAPABILITIES. SUCH MALINVESTMENT IS CAUSED BY (1) INSTITUTIONS SUCH AS SCHOOLS, THE STRUCTURE OF THE ECONOMY, AND THE FUNCTIONING OF THE CAPITAL MARKET WHICH DISCRIMINATE AGAINST PARTICULAR CLASSES OF PEOPLE, (2) DEMOGRAPHIC FACTORS, AND (3) ECONOMIC GROWTH BEYOND THE EDUCATION RATE. THE ECONOMIC GROWTH INCREASES THE DEMAND FOR HIGH SKILLS. WHAT NEEDS TO BE UNDERSTOOD ARE INPUTS OF PHYSICAL SORT WHICH ARE COMPLEMENTS OF HIGH SKILLS, THEIR RELATIONSHIP, AND THEIR SUBSTITUTION FOR UNSKILLED LABOR AND OLD FORMS OF CAPITAL. THE OPPORTUNITIES TO INVEST IN MAN ARE OFTEN BETTER THAN IN REPRODUCIBLE MATERIAL THINGS, AND THE INVESTMENT OPPORTUNITIES IN MAN ARE BETTER IN POOR PEOPLE THAN IN THE MIDDLE CLASS AND RICH PEOPLE. IT IS PRECISELY IN POOR PEOPLE IN THE UNITED STATES WHERE THE BEST UNEXHAUSTED INVESTMENT OPPORTUNITIES EXIST. A TRANSCRIPT OF A DISCUSSION PERIOD IS INCLUDED. (SL)

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SEMINAR ON MANPOWER POLICY AND PROGRAM

Investment in Poor People

by THEODORE W. SCHULTZ

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U.S. DEPARTMENT OF LABOR: W. Willard Wirtz, Secretary
MANPOWER ADMINISTRATION

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- The purpose of the seminars is to provide a platform for guest speakers and for members of the Department of Labor and other agencies concerned with manpower problems to discuss issues arising from the development of an Active Manpower Policy.
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SEMINAR ON MANPOWER POLICY AND PROGRAM
February 1967

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Investment in Poor People

by THEODORE W. SCHULTZ

OPENING REMARKS

Chairman—Dr. C. E. Bishop, Head

Department of Economics

North Carolina State University

DR. BISHOP: It is my pleasure to open this Seminar on Manpower Policy and Program. For two reasons I especially am pleased to be so privileged. First, I consider the topic for this seminar as one of the most important topics in the long-run context in the economic policy arena. Even so, it is a subject which would have attracted little attention just 5 to 10 years ago. Education was regarded by the poor as a luxury to be consumed largely by the not-so-poor. A serious discussion of the challenges and opportunities in the development of human resources was beclouded by our reluctance to recognize the human agent as a resource, and to consider it in a developmental context. Our seminar today is to me a manifestation of maturity of thought in the treatment of the human being as an agent of production.

Secondly, I am particularly grateful for the opportunity of introducing to this audience, our speaker, who through his books and articles, *The Economic Value of Education, Reflections on Investment in Man, Underinvestment in Equality of Schooling,* and *Transforming Traditional Agriculture,* chartered the course for much of the research recently done pertaining to investment in people.

It is a pleasure, therefore, for me to present to this audience Dr. T. W. Schultz, Charles L. Hutchinson Distinguished Service Professor of Economics, the University of Chicago, who will speak to us on the subject, "Investment in Poor People."

Professor Schultz.

INVESTMENT IN POOR PEOPLE

An Address by Dr. Theodore W. Schultz

DR. SCHULTZ: Thank you very much, Dr. Bishop.

One could play tricks with my title. Strange things sometimes happen. Professor Young, social psychologist at Northwestern, worked several years on a scholarly study. He finally sent it to Knopf with the perfectly accurate title, *A Study of the Early History of Multiple Marriages in the Four Northern Counties of Utah.* Knopf suggested a small change in the title, *Is One Wife Enough?*

My first heroic assumption this afternoon is going to be that despite numbers, we are in fact a seminar. I will assume that you are in a mood to doubt and criticize, and that you will go after the moderator and Professor Bishop, and that I might enjoy the interplay.

Meeting here on Brookings' soil, I shall assume also that we may try out some new seeds and see what happens.

I plan to frame my comments using an investment approach. Workers are productive agents, Their economic productivity can be enhanced by investment in them. Such an investment represents the formation of human capital. There are alternative approaches. Efficient allocation of resources might be one. Optimum rate of economic growth might be another. But the investment approach, as I shall develop it, is not necessarily inconsistent with either of them. In fact, all three are interdependent. Each enters upon dynamic economics, and each is inconclusive, given the present state of our knowledge. This should give you comfort and, I feel, courage to disagree with any one of us, or with what your colleague might say a bit later.

I say, "inconclusive," because when many capital goods or talents are postulated, in an analytical sense, the problem is in the realm of "causal indeterminacy." The connections between capital and growth are, despite the rapid development of growth models, very unsettled. The reason for this is fairly obvious: "capital" is ever so elusive analytically. The simplifying assump-

tion that capital is homogeneous, although a useful device for preliminary exploration, has been a disaster for capital theory, so Hicks tells us in his recent book, *Capital and Growth*.[1] Capital, he says, is:

> . . . a boat that is loose from its moorings . . . If there is just one homogeneous "capital," there is nothing to do with our savings but to invest them in this "capital;" there can be no problem of malinvestment.

We know that there is malinvestment, but what is in store for us when we abandon capital homogeneity remains to be discovered. Capital homogeneity is like a raft. We are going to stay afloat on it, but our feet are in the water and I don't think we quite know how to make the raft move. The distinction you find in the literature between conventional and human capital will not suffice to handle the homogeneity involved here, nor will an older specification, even though it were applied to both of these classes. The beehive that has been at work on human capital has identified a long list of different forms of human capital, enough to fill a Sears Roebuck catalog.

The investment approach is not only a useful, but a very powerful organizing concept for policy and programing. It comprehends cost and benefits. It can take short or long horizons, or both, into consideration. It can take all sources of producible income into account. Using it one can identify major malinvestments that are a consequence of public policy. Let me give three examples.

First, in agriculture, all too much has been invested in land, relative to what has been invested in farm people, measured in terms of the social rate of return.

Second, in industry, the tax investment credits are for equipment and structures and not for economically useful industrial skills.

Third, in schooling and other investments in people, the underinvestment is patently most serious in the case of poor people. And here you have the reason for my choice of title.

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[1] John Hicks, *Capital and Growth* (New York and Oxford: Oxford University Press, 1965).

My plan is to comment briefly on five different topics, as follows:

1. An old utility of poverty doctrine, which held that poverty is a useful, necessary, and good thing in society;
2. Manpower thinking tied to yesterday's problems;
3. Malinvestment in people clues;
4. A classification of the sources of these malinvestments;
5. The demand for skills viewed as a function of economic growth—a hypotheses.

Utility of Poverty Doctrine

The utility of poverty doctrine dominated English social and political thought between 1660 and 1775. It captured the best minds of England during that period. I think it stands as a warning on how badly social thought can become twisted. This warning does not condemn the minds of an earlier period, but alerts us to the fact that our thinking may also become twisted by the circumstances that shape us socially.

During the century in English history in which the utility of poverty doctrine held sway, the poverty of the lower classes was thought to be desirable; such poverty was thought, accordingly, to achieve good results. The key to this twist is in the system of nationalism that then prevailed in England. It produced a very intricate foreign and domestic policy. The classic book on this nationalism is the Hart, Schaffner & Marx prize book of 1918 by Edgar S. Furniss.[2] If you happen to have it in your library, hold on to it. Read chapter 6, which is very relevant; it has the title, "The Doctrine of the Utility of Poverty."

Let me cite some of the beliefs of illustrious individuals. Thomas Mun's view was that, "Penury and want do make a people wise and industrious." Arthur Young said, "Everyone but an idiot knows that the lower classes must be kept poor or they will never be industrious." John Law held that laborers are to blame for

[2] Edgar S. Furniss, *The Position of the Laborer in a System of Nationalism* (Boston and New York: Houghton Mifflin Company, 1920).

recurring high prices, because of their "insufferable" habits of idleness contracted when food was cheap. William Petty joined the chorus. Even David Hume was not immune. He supported his belief by stating that in ". . . years of scarcity, if it be not extreme, the poor labor more and really live better than in years of great plenty when they indulge themselves in idleness and riot." Mr. Hume did not spare the farmer. In our low opinion of poor peasants in poor countries of the world, we are still tied to Hume's obsolete view. It is patently wrong now as it was then. Hume's defamation of them is terse. "A habit of indolence naturally prevails." He also believed that farmers were not only indolent, but squanderers.

It follows logically from such beliefs that the real wages of the laboring classes must be held low. One of the ways of doing this, so it was argued, was to increase the price of necessaries. When wheat is plentiful, measures should be taken to subsidize its export. Sounds a little strange, doesn't it? There should be taxes on consumption. Access of the poor people to amusements, including strolling players, should be curtailed. Laws kept the poor out. The consumption of tea on the part of the poor should be treated as an evil. Charity was thought to be the nursery of idleness. Additional population was considered desirable because it would keep laborers poor and the thing to do was to encourage immigration. The famous George Berkeley, Bishop of Cloyne, proposed to reward parents for large families and tax those that had no children.

Now, the point is simply this. The key to this twist in social thought was the particular system of nationalism of 1660 to 1775. I give it here as a warning. Our own economics of poverty is also colored, I would argue, by middle-class notions of welfare. Perhaps they are not as gross, but they restrict our vision nevertheless.

Obsolete Manpower Thinking

Today's strong aggregate demand for more productive capacity is a bit rough on some of yesterday's ideas about the ava-

lanche of new technology, lack of jobs, and structural unemployment.

We now want more productive capacity, more labor than is in supply. It seems to me that this does imply that we want more automation. We want more advances in technology. We want more workers entering the labor force and more of them retiring later, and a myriad of shifts of factors to more productive activities. The stream of new technology is not the culprit it was thought to be. The growth in the labor force is not flooding the job market with workers. Nor is structural unemployment what it seemed to be 2, 3, or 4 years ago.

Manpower programs, obviously, did not bring about the strong aggregate demand for productive capacity, for it is in large part, a consequence of our fiscal and monetary achievements. But there is much at stake in keeping the economy from becoming slack once again, even at the risk of some inflation.

What is missing are ideas to identify and correct, now that we have a strong labor market, all manner of misuses of labor that are a part of the price of yesterday's slack and of our unpreparedness for today's aggregate demand. Call it weaknesses in the tendency to optimum allocation of resources, or lags in the responses, or mistaken expectations about the demand for labor, or uncertainty inhibiting workers from investing in new and better jobs. There are various ways in which we ought to take our bearings afresh.

The private and public opportunities that we have are fairly large. Let me call attention to a few as I close this topic.

1. To provide nonfarm jobs for the excess supply of labor in agriculture. Three additional years of strong demand for labor, enough to keep the unemployment down to 4 percent, would do more, in my judgment, to correct the economic maladjustments in agriculture than all the billions of dollars appropriated annually to subsidize U.S. agriculture. Another way of saying it is that we keep on appropriating billions of dollars for commodities and land instead of using it for investment in farm people.

2. Similarly, to induce workers to leave depressed areas. Here, it seems to me, some public programs are still headed in the wrong direction.

3. To break the back of job discrimination. To achieve this goal, much depends on social and political reforms. Let us not underrate, however, the strong economic leverage of a tight labor market.

4. Closely related to number three, to give Negroes a large boost in better job opportunities.

5. To mobilize at every point the possible functional earnings of workers to reduce poverty. While we await the necessary analytical work, I feel sure it will show that the reduction in the rate of unemployment in the last couple of years has done more to reduce poverty than all of the specific War on Poverty programs put together. This interpretation of what is happening is not advanced by me as an argument against such programs, but to point out the relative importance of tight employment. Let me take advantage of present opportunity in reducing the poverty component in the United States.

6. To reduce the inequality in the personal distribution of income.

All six listed above are, in my judgment, real opportunities which we have not had for a decade.

Malinvestment Clues

Estimates of the rates of return on college education run mostly 10 percent and somewhat higher. But for secondary, and especially for primary education, they run much higher. My own estimate for the fifth through the eighth year was 35 percent rate of return. Others have come along since then with better data and show rates of return even higher than that. For high school, Becker found, in his book *Human Capital*,[3] that the private rate of return to high school graduates rose from 16 percent in 1939 to 28 percent in 1958, despite the tremendous increase in the number of high school graduates entering the labor market.

[3] Gary S. Becker, *Human Capital* (New York: National Bureau of Economic Research, 1964).

Let me postpone what inference can be drawn from these differences in rates of return. There are also other kinds of clues. Take a look abroad.

Unemployed elementary school leavers in the less developed countries are often cited as proof of overinvestment in elementary schooling in such countries. If such evidence were restricted to countries with a stagnant traditional economy, it should not come as a surprise. In poor countries with substantial economic growth, however, the evidence that is at hand so far supports a high rate of return for elementary schooling. This is borne out in studies by Martin Carnay for Mexico and Samuel Bowles for Northern Nigeria. Both of them show high rates of return.

The rate-of-return studies may be biased if unemployment is causing rationing against particular workers, especially against the less educated. Thus, one might attribute too much to the earning difference between the person with 12 years of schooling, and the person who had only 8. One needs to be on his guard in this kind of work. It is noteworthy in this connection that Becker's estimates of high school graduates in 1939 showed a 16 percent rate of return when there was 17 percent unemployment. In 1956, it was 25 percent when there was only 4 percent unemployment.

Next, it is often said or alleged that employers "buy degrees" instead of economic productivity in hiring workers, and thus schooling should be treated as a consumer good for employers. Although I mention this allegation, as far as I know there has not been a shred of evidence to support it. I don't consider this a malinvestment clue.

When we turn to particular skills, there is little doubt that there has been overinvestment. Farming skills are surely a case in point, and in view of this fact, how much have the agricultural vocational departments in our high schools contributed? Federal training programs certainly train people in some cases for skills with too little market value. The Civilian Conservation Corps might have offered good experience to a youngster of a certain age. But how valuable is this type of skill to enhance one's earnings in an industrial urban society?

In the case of poverty, viewed in retrospect, taking the long secular view and thus leaving aside cyclical changes in the rate of unemployment, much of the remaining poverty in the United States is, I believe, a consequence of low earning capabilities which in turn is in large part a result of a lack of schooling. Thus interpreted, it represents past mistakes, ex post malinvestment, underinvestment at the time the particular persons who are now 25 years of age and older attended school.

Now, look at the Negroes as a group in the same way. Their low earning capabilities as adults in the labor force are in large part to be viewed here as the result of historical malinvestment.

With respect to personal distribution of income, I am going to stay with earnings, and the importance of schooling in reducing inequality of personal distribution of income. Becker and Chiswick have investigated how much of the differences in personal earnings, among States and among regions, rides on differences in schooling. One-third is straightaway explained by it. Another third is also strongly correlated with schooling. Moreover, comparing, for example, Texas and Connecticut, the rate of return to schools in Texas is higher than it is in Connecticut. Welch's recent study at Chicago, concentrating on "quality differences" of schooling, reveals another major source of malinvestment.

There is also Gisser's study, also at Chicago, of the rate of return to schooling for hired farmwor[illegible]rs, in which the cost includes all earnings foregone and all direct school costs. For males in 1958, his study showed three regions where the rates of return are 20 percent or slightly above, and then the Southeast, where the rate of return is 28 percent. These are all high rates. But the highest is actually in the area most seriously behind in schooling.

He has also done a second study which has just been published on the out-migration effect of reducing the supply of farm labor. He found:

> An increase in the level of schooling in rural farm areas of 10 percent induces a 6 to 7 percent additional migration out

of agriculture and the net effect is to raise the farm wage rate 5 percent.

In the study by Welch, to which I have already referred, a measurement of the quality of schooling shows that in the rural farm areas, as of 1959, the internal rate of return to investment in quality of schooling derived from the first-order effect:

> . . . is 26 percent and allowing for the total effects, the rate of return declines slightly to 23 percent.

This is on the quality of schooling.

Having said these several things about malinvestments, it is clear that these are ex post. It does not follow that people could have avoided all of them because obviously not all of the increases in the demand for skills could have been anticipated.

Classification of Sources of Malinvestment

It would be elegant if we had a simple dichotomy: malinvestment that is beyond the reach of economic incentives; and malinvestment that is within the realm of economic decisions and responses. But such a simplification is not at hand. The sources of malinvestment are in part a function of time and change. What is the appropriate time horizon? Should we look at one decade, two decades, or longer? I shall stress institutional factors, and if you allow two or three decades, institutions also respond to economic incentives and they begin to change. For example, we now have strong economic leverage to break the backbone of job discrimination.

Looking back to the postwar period, I shall list what appear to be fairly obvious reasons for malinvestment in schooling. Such a classification, of course, rests on hindsight. I shall concentrate on *institutional* and *demographic factors* and on *economic growth*.

1. Institutional factors. Our schools are institutionalized. There are marked differences among them. There are also large differences in the opportunity for on-the-job training. Information certainly differs widely and I want to say a word about the capital market as an institution.

Our system of schools has a very strong built-in institutional component which discriminates against particular classes of people. This legacy of discrimination, along with its complement, job discrimination, has been responsible for much underinvestment in the schooling of Negroes, people with Spanish surnames, Puerto Ricans, American Indians, and Filipinos. This legacy is a matter of preference of particular white people and it is supported by long established, social and political institutions.

State and local school systems have long been very uneven in the opportunity they provide to acquire schooling. Nor are the poorer opportunities restricted to Negroes and the other ethnic groups already mentioned. Fishlow has shown that large differences in this respect, for white children, were already evident before the Civil War; poor whites in the South were even then obtaining far less schooling than whites in the Northeast and in the Northern Middle States. Although the schooling was increasing from 1840 to 1860, just before the Civil War, it did not close the gap.

Now, with reference to on-the-job training, it also is exceedingly uneven. The reasons for this unevenness are also institutional in the sense that they are a part of the structure of the economy. Agriculture cannot provide any meaningful on-the-job training for farm youth who must seek nonfarm jobs. The growth industries that count most on this score are rarely to be found in small towns but instead are located in and about the large cities. Then, too, the state of information with regard to the value of high skills is functionally related to the structure of the economy.

Lastly, I turn to the functioning of the capital market. It, too, is an established institution, and it is as yet poorly organized to supply funds to parents and students to invest in human capital. The reasons are obvious. But the consequences of this particular limitation of the capital market are less obvious. The principal result is that private investment in human capital is of necessity financed in large part internally from the resources of the family and the individual, that is, from the personal income and assets that families have. If you ask yourself why we are so unsuccessful

in getting a proportional amount of talent out of the lower third or fourth in an income sense, it is largely because of this capital rationing. If you are in this category of low-income families, you cannot go to the capital market to obtain funds. This is still essentially the fact of the American scene, despite all that is said on free schools and so on.

2. Now, the demographic factors. Adult immigrants have been short on schooling but they have had to make the best of it, for in general it has been too late for them to acquire the optimum amounts. Between 1941 and 1964, 3.7 million immigrants 16 years of age or older entered the United States; an occupational classification lists only 10 percent of them in the higher skills. In 1960, there were 447,000 foreign agricultural laborers, predominantly from Mexico. This has changed, of course, drastically in the past year. The rate of population growth of Negroes, farm people, and of poor people generally has been relatively high; but each of these groups has been up against special circumstances adverse to the investment in their own capability while young. I don't think I need to develop this point further. But it comes as a surprise to me that Negroes do have one advantage, a demographic advantage. They are relatively young as a population. This comes out most clearly in terms of agriculture in which the white median age is 33 years compared with 17 years plus for Negroes as of March 1964. The possibilities of moving out are greater. The April 1 estimate has just come to my desk. It shows that from 1960 to 1965 the nonwhites declined 41 percent, whereas whites dropped 17 percent. There is thus one advantage in being young!

3. Lastly, economic growth. No long chain of economic logic is required to see that when the effects of growth upon prices are unanticipated, the stage is set for malinvestment. In general, the growth industries have been the employers of high skills which require a long sequence of years of schooling. But it is hard to believe that parents and young people could have anticipated correctly, say, two decades or so ago, the growth that has occurred since then in the production of consumer durables, of

producer durables, and of the complex equipment and instruments demanded by the Pentagon and the space agency. These are the industries that undoubtedly have accounted for most of the relative increase in producer demands for high skills. Even where the changes in the relative size of the major sectors of the economy have been in large part a consequence of differences in the income elasticity of the demand for final products, these changes and implications have not been thought through and anticipated.

Economic Growth and Demand for Skills

We come to the basic point with which I want to close. We are in a period of economic growth which generates a large increase in the demand for skills; it increases the demand for high skills relatively more than for low skills. But why? To project past trends is very dangerous. Such projections without theory ought to give us pause.

Let me advance a hypothesis. The income effects that shift the demand toward consumer durables, producer durables, and Pentagon hardware, I think are quite straightforward and give us no theoretical difficulties. The problem arises when we try to take account of the advance in useful knowledge. The hypothesis is that the results of material inputs are a complement to high skills, or conversely, high skills are a complement to the kinds of new material capital forms that characterize and will continue to characterize our kind of economic growth. High skills and better physical inputs accordingly are complementary.

The better physical inputs and high skills are, in turn, substitutes for unskilled labor and for old forms of capital. The implied hypothesis "saves" a small part of classical theory. The theory I was brought up with in this respect, as many of you were, was that advances in knowledge, which feed back into the economy usefully, are so induced that over time new technology would slowly and gradually make most work routine, requiring low skills. Obviously, the opposite has been the overall effect of the advance in such knowledge.

The question is, what have we on our hands? Let me argue that what you have to look forward to is that, in the micro sense, when a new piece of knowledge comes in—the computer, or the control of bacterial fungi in the case of cheese, butter, and so on, in the work of Dr. Hammer—it commands very high skills. Dr. Hammer's work actually required Ph.D.'s to handle the techniques. But rather quickly, though, the skill requirement started spiraling down. All sorts of ways were discovered to make this come about, so that you needed no more than a bachelor's degree in bacteriology. The supply of the required talent increased very rapidly and did not demand high specialization. This is the classical spiraling down. The computer story is closely akin. At first it required a first-rate mathematician. Now a competent high school graduate can do it. This is a rapid spiraling down, but it stops at a point much higher than formerly in the kind of work it is substituting for. It is substituting and replacing unskilled activities on the part of labor. Yet the aggregate picture is a rising demand for skill even though each micro part is spiraling down somewhat.

Let me leave this as a hypothesis, that what we are trying to understand are inputs of a physical sort which are complements of high skills, that they are linked, and that both are substitutes for unskilled labor and old forms of capital. I want to give credit to my colleagues, H. Gregg Lewis and Finis Welch.

Thus, in closing, Mr. Chairman, I have said several things. The utility of poverty doctrine stands as a twist in social thought in England from 1660 to 1775. It is a warning to all of us.

Manpower thinking today, here in Washington, is tied too much to yesterday's problems.

I pointed out a number of clues to malinvestment, largely on the schooling side. But not all could have been avoided.

I then tried to classify them as institutional, demographic, and arising from economic growth.

Lastly, I alluded to a hypothesis on the demand for skills.

I noted early that the opportunities to invest in man are better than in land, and also, that the opportunities to invest in man are often better than in reproducible material things, despite invest-

ment credits and tax favors that we give on the industrial side for material things, and finally, the investment opportunities in man are better in poor people than in middle class and rich people. It is precisely in poor people in the United States where the best unexhausted opportunities to invest exist.

I turn you now to the moderator.

DISCUSSION PERIOD

Moderator—Dr. James D. Cowhig

Chief of Research Grants Branch, Welfare Administration

U. S. Department of Health, Education, and Welfare

DR. BISHOP: Thank you very much indeed, Professor Schultz.

Our moderator for discussion this afternoon is Dr. James Cowhig. He is the chief of the Research Grants Branch of the Division of Research, Office of the Commissioner, Welfare Administration, United States Department of Health, Education, and Welfare.

Prior to his work with the Department of Health, Education, and Welfare, Dr. Cowhig was on the staff of the Economic Research Service of the Department of Agriculture, where he pioneered in research pertaining to educational differentials in the United States. Dr. Cowhig.

DR. COWHIG: Although I am sure that either Dr. Bishop or I could raise a number of questions, I would much prefer to turn the discussion over to you people. I am quite prepared to call on someone.

DR. BISHOP: Let me pose one question while other questioners are getting their thoughts together.

Professor Schultz, are you saying that we should not have to defend investments in people in terms of structural unemployment, but that there are other good and sufficient reasons for expansion of training programs, and advocating additional investments in education, and so forth? In your point number two.

DR. SCHULTZ: I did not actually underscore enough that investment normally presupposes the longer view.

FROM THE FLOOR: I would like to ask a similar question, in effect, a hypothesis. Were you saying that investment in people is self-reinforcing, that you do not need to project for a short range even, the demand that you might have, but that if you do

invest in people, this in itself will create the effective demand for their services because they themselves will generate this if they are more educated?

DR. SCHULTZ: I did not go so far. What I said is that a part of growth comes from better inputs and that the physical ones and the human ones are complements. To oversimplify then—the tractor is useless without a tractor driver. The highly skilled tractor driver is also useless without the tractor. Both, working together, are substitutes for the horse, and the lower skilled people who handled horses.

FROM THE FLOOR: I have a long memory and I wonder whether your computations on return on education would have been substantiated during the 1930's. I know that you don't take into account a backdrop of job opportunity to utilize the education that you acquire.

DR. SCHULTZ: I said there are school leavers, elementary school leavers. I then said that we may overestimate the rate of return because of unemployment when there is rationing against the less educated. So if you look at earnings during high unemployment, you overstate the differentiation in favor of 12 years of schooling. This is where I think one has to be very much on his guard. The studies that have been made, certainly all the older ones, tried to take account of unemployment, but not always successfully. Is education a correction for unemployment? It is not. Can you get good guides on what kinds of skills you have even in the short run when you have an underemployed economy? You cannot. Monetary and fiscal policies are imperative to keep an economy tight, and they have given us the present strong aggregate demand.

FROM THE FLOOR: Assuming that your hypothesis on investment in people is good economic theory, is investment in poor people equally good economic theory?

DR. SCHULTZ: I didn't say either one was theory. Using theory as an analytical tool, we discover the rate of return on the additional year of schooling. In the case of poor people it is higher than it is for middle class and rich people. The rate of return on

another year of schooling for people in Iowa is less than in Texas, much less than in Mississippi. It's not theory. It's evidence, as hard as you can get it, much better evidence than we have on different forms of physical capital.

FROM THE FLOOR: The evidence is only there when the opportunity to measure the return is there. But if the poor person was not used and will not be used, what is the opportunity for measuring the return on the investment?

DR. SCHULTZ: If you are saying that at some juncture, say a few years ago, we were running excessive unemployment, and this unemployment conceals opportunities for human resources, I agree completely. Moreover, to repeat, you don't correct unemployment with education. Investment in schooling is not a way of getting out of excessive unemployment.

FROM THE FLOOR: I suppose per dollar of expenditure, your return on investment on young people is greater than in older people simply because they have more years to use the acquired skill and knowledge. But in connection with this capital market, I am awfully impressed by the fact that young people, if they are energetic and have some support, probably can go through school and go to college, at least if they have outstanding ability. But when people get a little older they get in a sort of box, and have family responsibilities. Many of them develop late and did not realize when they were young that they should acquire more education. Many of them in jobs realize that they could go back to school a couple of years and acquire more breadth, that they might be able to bring a great deal more to their jobs. There are probably many people here in manpower now who feel that if they could just go and study with Professor Schultz a couple of years, this would be an enormous marginal addition to their previous backgrounds. It seems to me that more thought should be given to some kind of capital market or program for allowing promising older people to add to their educations. Would you care to comment on that at all?

DR. SCHULTZ: I agree with everything you say, except studying with yours truly, Dr. Schultz! You are absolutely right in saying that there are very strong reasons why this type of long pay-off investment should be started while one is young. It's no accident most schooling is for youth, if not for social and biological reasons, for very strong economic reasons. Education becomes obsolete. What are we going to do about it? What are the remedies and correctives? We are in the stage of economic history where a lot of people just did not get the schooling for all sorts of reasons. This is really an area where we ought to do some thinking, and see where we come out.

FROM THE FLOOR: We don't know what the returns would be.

DR. SCHULTZ: No, we don't, and there is no evidence. There are no patterns on how one can do this best. I know of no systematic thinking. I invite anyone interested to pitch in.

FROM THE FLOOR: I was greatly interested in your remark, in passing, that the study compared the value of an additional year of education in Iowa and Texas. It occurred to me that Iowa is largely an agricultural State. It is also, I think, a State where there is a tradition of good education so that most of the kids do complete high school, and a lot of them go on to college. So there is a rather good matching of skills and education and demand. But in Texas, we have a situation of extremely rapid growth. At this point we have a real shortage of people with even minimum skills. So that the value of that extra year represents a wholly different economic demand and reflects now a situation where we can increase the value of our investment by matching investment in people.

DR. SCHULTZ: I agree with everything except one slight inference you left out. Iowa has the larger supply of schooling skills. Nearly everybody finishes high school and so on. In Texas the supply is still much less.

FROM THE FLOOR: The point is, Texas is one of those States where a very large percentage of its population, I think, probably has not even completed the eighth grade, never mind high school. There are lots of opportunities.

DR. SCHULTZ: You see, in agriculture, the rate of return to schooling is highest in the Southeast.

FROM THE FLOOR: We have been chatting with Representative Curtis from Missouri regarding the Human Investment Act which provides a 10 percent tax write-off. You seem to be hung up on the analogy between the tax incentive act for new equipment and the human investment tax write-offs, on the concept of amortization. It seems that the amortization concept does not work when you are talking about general language skills, for example. It does work very nicely if you are talking about training people to work the machine which itself is becoming obsolete. Would you like to comment on that?

DR. SCHULTZ: Yes. I have had some interplay with the staff back of the so-called Human Investment Act. But I have not thought through the identification problem. If the law were to give a corporation credit for investment in human agents, it really can't be readily identified, which is crucial. I feel intuitively that once we face up to the fact that obsolescence is rapid and we have to do a great deal of training and retraining on the job, and this particularly as we get to the higher skills, that we probably will have to do it largely in businesses and corporations. This would be the efficient place to do it, rather than by a Government agency. But I don't see yet—I haven't thought through how the worker is going to get the value received.

FROM THE FLOOR: Couldn't there be a possible conflict between your point that the investment in poorer people would be higher, which I accept, and the last point, the rate of return, in the form of a hypothesis? If one thinks in terms, and this may be realistic, of a sort of a fixed fund for education purposes, even though the rate of return for poorer people may be higher, it may make more sense to invest in the two examples that you gave, one in the field of biology and one in computer technology. It may make more sense to invest initially in a Ph.D. who will operate the computer because of the considerably higher level of ultimate output, variety of products, that would result from such an investment.

DR. SCHULTZ: Well, the specific one, biology, required a Ph.D. in dairy bacteriology. But, in general, the evidence strongly supports the inference that another year of schooling for youth from families in the lower fourth produces a high rate of return. The anomaly is that we think of our society as having free education, an awful lot of public schools, and so on. But as I pointed out at the University of Western Michigan the other day, the student body came from homes with several thousand dollars higher average income than the families who largely subsidized their education through taxes. I suspect that it is more difficult to finance oneself if a student comes from the lower fourth in income of American families, to get through college, than it was when I was in college.

FROM THE FLOOR: Dr. Schultz, my question goes to your computer example. It's a request for clarification. Is it correct that when there is innovation, very high professional skills are needed for operational purposes, but then very rapidly, popularization sets in, simplification results, and the skill level drops—but it does not drop to unskilled? It settles somewhat higher? If that is correct, from the point of long-range employment, let's say, would we not be wise to concentrate very much on the quality of instruction in the secondary school system? Because if we turn out kids with a good secondary education, then it will be relatively easy to get them to do the operations formerly so highly skilled. Am I right on that?

DR. SCHULTZ: Yes. If we look at postponing specialization until the very last of high school or the very last of college, or even later, you see, then you can cope with this spiraling problem where it hits, and you can also better cope with the obsolescence problem.

FROM THE FLOOR: Training and retraining problems become more manageable.

DR. SCHULTZ: This is exactly right.

DR. COWHIG: How would you explain the question current everywhere today: Can we afford this investment you were talking about, given the other priorities and allocations?

DR. SCHULTZ: We cannot afford not to, in the very simple sense that if we have a lot of investments earning 10 percent, we can shift some to 20 percent. In agriculture, we should not invest in land or structures but instead in farm people.

DR. BISHOP: We can't let him get away with that. It does seem to me we have to face up to who receives the gains and who bears the costs, in making this kind of statement. You say, "We cannot afford not to," meaning "we" as a Nation. But I don't believe you can ignore who is paying for this and who is receiving the benefits.

DR. SCHULTZ: Yes, but be a little more specific.

DR. BISHOP: Well, how are we going to finance the education? What forms are we going to invest in? Who is going to reap a 20 or 30 percent return? You say we are over-investing in land, maybe we are from the standpoint of society, but maybe not from the standpoint of the landlord. The social, public, and private side of this creates all kinds of anomalies at the Federal, State, and local levels. This is what makes jobs for so many of you and work for economists.

DR. SCHULTZ: It makes the world interesting. We have not resolved it in any sense. I think it is very important, therefore, to begin to separate the better studies we have been doing. The social rate of return is rather easy to understand. When you get into instrumentalities, you also involve the public. I just want to pull out one small specific point, one that came up in a conference Dr. Bishop and his colleagues set up at Asheville. Some of us began to play with the idea of the paradox of one community investing in a high school education and then the youngsters leave the community to go to Chicago to work. Here we have a public assessment against the people of that community. The youngsters move to Toledo, Cleveland, and Chicago. They are now in a much higher income bracket because of the higher schooling, location aside for the moment. The taxing process obviously does not compensate the original community. They cannot tax them. Here you have one of the strongest arguments for a reallocation of public revenue from the Federal level to the local high schools.

FROM THE FLOOR: In your rate of return on educational investment, do you get a better return from investing in a poor man or a poor woman?

DR. SCHULTZ: Beautiful! I think here, too, we have to start with job discrimination. I suspect that we are going to find out that woman's participation is rising very rapidly. But there is discrimination against her skills still. This very much affects what we get in school cost against returns.

FROM THE FLOOR: Do you think that the Communist countries, wedded as they are to the labor theory, have shown a great awareness of the problems we have?

DR. SCHULTZ: I had the privilege in 1960 to be a guest of the All-Soviet Academy of Sciences. We talked about the Soviet school system a lot. The Soviet Union has made an approach to schooling that looks similar to ours in many respects. They have done a number of things superior to ours. They also have made some very serious mistakes. They have treated students in universities as workers and paid them a working wage. In this they have done very well. The wage advances as students progress and deliver.

Now, the mistakes. The biggest one is overspecialization. The Soviet's economy came forward fast, for example. By their own testimony they misplanned; they anticipated they would need many thousands of mechanical engineers and they were completely wrong within a few years, and they had all kinds of highly specialized mechanical engineers who could not do anything else. They were not general engineers who could shift. By the way, the Soviets have now set up an institute in the academy precisely on this area of investment in human agents.

DR. BISHOP: Could I press you just a bit on the source of malallocation which you listed as information? How would you treat investments in relocation? Would you treat these in the same sense as other types of investment in human agents?

DR. SCHULTZ: Elaborate a little bit.

DR. BISHOP: Well, for example, the Department of Labor now has a public program of relocation of people in certain kinds of

training, and certain kinds of payment being made to help offset the cost of moving from one area to another.

DR. SCHULTZ: I am going to make two comments. One is that I have done a little work on information about the value of additional schooling. It just turns out that poor people from poor families have less information on which to make decisions than less poor families. This comes out very clearly. The more rural the family, the less the information, relatively. Now, reversing it, the more professional the family, the better the information. Families in which the parents have professional occupations possess the best information on which members of the family can make decisions. This is on the information side.

My second, is on getting involved in relocation. The position I would take on this, although I haven't seen any study, is the comment I made earlier in this discussion. We badly need to run experiments to get information. This may be fairly expensive when one considers getting whole families relocated. I don't know what the answer is. I wish we could run the experiment and also keep the records.

FROM THE FLOOR: Fred Gross, one of the architects of the Full Employment Act of 1946, suggests that the act gives us an economic message which is now of very great importance, and I hope that you will forgive the implication, not mine, that we now need a social message to the Congress which suggests that cost-effectiveness, so popular today, breaks down precisely in this area.

DR. SCHULTZ: Breaks down at this area?

FROM THE FLOOR: Breaks down in the whole human investment area. It's very difficult to do a cost ratio in any meaningful sense in the area of working with the poor—for example, training teenage kids. One of them throws a Molotov cocktail and causes a million dollar fire and your cost ratio is shot. Would you care to comment?

DR. SCHULTZ: This issue is very hard. There would have to be another whole day to cover this ground. I am uneasy on one part. I am uneasy by the implication that resources are not so used. My

approach to investment includes both the private route and the social route. We ought to be asking ourselves, what do people in society and individuals get out of this investment. I am not trying to make any case for the currently fashionable cost-benefit studies. On investment, I take a long view and there is no excuse for not facing up to resources to attain social objectives.

DR. BISHOP: Let me thank you very much.

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